

indicates a distinctly different edge profile between the discs of cells 1 and 2 around these radii. Fig. 9A plots the curvature profile of substrates used to form discs of cells 1 and 2, with a curvature being developed in the range of the glide radii. The distinct separation of the two groups of curvature lines clearly differentiates the two cells in the same way as the new curvature profile testing has differentiated them.

[0047] On the other hand, returning again to Table 8, a comparison of the discs of cells 3 and 4 between their average glide radii shows no clear differentiation between them. Similarly, referring to Fig. 9B, the curvature plotted for the substrates used to form the discs, which would be grouped in these two cells are also mixed at these radii. This clearly indicates that the results of the curvature testing of the present invention, while allowing for testing of substrates rather than requiring testing of finished discs, result in highly accurate results which track well the accuracy of glide avalanche testing.

[0048]

Example 1:

Considering further the data of Figs. 7A and 7B, two groups of discs, Group A and Group B, with curvature profiles which have distinguishable differences near the edge, have had their glide avalanche performance tested and recorded in Fig. 7A. It can be seen that all of the Group A discs have a higher glide avalanche reading at 40.9 nm than the Group B discs.

[0049] Fig. 7A further shows that the glide avalanche for both sets of discs remains close to the base line at approximately 3.8 nm, but rises up sharply from 40.1 to 41.0 nm.

[0050] Moving next to Fig. 7B which shows curvature profiles run on the substrates of the discs tested in Fig. 7A, we see that in Group A the curvature begins to deviate from 0 at about 39.8 mm and deviates from 0 for Group B at about 40.5 mm. Thus this curvature profiling explains why for the GA at a radius of 40.1 mm remains close to the baseline for both of the groups (although Group A already has a somewhat higher GA) that jumps up sharply when the head moves out 0.9 and to about 41.0 mm. The conclusions to be drawn are that the disc substrate can be qualified by the radius where the curvature starts to rise up from zero, and secondly that the curvature profile yields

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results which can be correlated with, but are more accurate than the glide avalanche profiling.

[0051] Other features and advantages of this invention will be apparent to a person of skill in the art who studies this disclosure. Therefore, the scope of the invention is to be limited only by the following claims.

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